Personality Disorders: Theory, Research, and Treatment

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Research has identified a multitude of demographic, psychological, and contextual factors that are associated with violent offending among youth. However, much of the previous research has focused on single factors, and little is known about the effects of these various factors in tandem. The present study examines whether certain community factors impact the effects of race and psychopathology on violent crime. Multivariate analyses were used to investigate race-psychopathology combinations and the moderating influence of exposure to community violence in a sample of youth (N = 1,116). Youth without antisocial personality disorder (APD) or psychopathy were less violent than the other diagnostic groups, and Black youth were less likely to have psychopathy compared with Whites and Hispanics. However, Black youth with APD and psychopathy were twice as likely to exhibit violent crime versatility. Furthermore, Black and Hispanic youth demonstrating aggressive conduct problems committed a greater number of violent crime types than Whites. This relationship was further qualified, such that Black and Hispanic youth with APD and psychopathy, who were more exposed to community violence, committed a greater number of violent crime types compared with Whites. These results suggest that prevention and intervention strategies should consider individual *and* community-level factors.

Keywords: psychopathy, antisocial personality disorder, conduct problems, race, exposure to community violence

Research identifies a multitude of demographic (e.g., sex, racial/ethnic status), psychological (e.g., risk taking, impulsivity, IQ), and contextual (e.g., family, peer, neighborhood) factors that are associated with violent offending among youth. However, with some exceptions (e.g., Farrington, 2005), the majority of these studies do not develop integrative models that account for the effects of these various factors in tandem. Instead, the typical approach assumes that the combined effects of these factors, such as race and environment, can be separated and examined independently, or are additive. While important findings emerge from these studies, increasingly, there is a move toward taking a more intersectional approach. The current study contributes to this effort by empirically investigating the combined influence of psychopathology, race, and community context on adolescent violent offending.

Antisocial Personality Disorder, Psychopathy, Conduct Disorder, and Violent Offending

When considering the relationship between psychopathology and violence, previous research highlights that different traits or diagnostic symptoms may similarly underlie the diversity of violent behaviors. Accordingly, diagnoses present in childhood, such as conduct disorder and in adulthood, such as antisocial personality disorder (APD) and psychopathy, have all been associated with violent offending (Baskin-Sommers, Baskin, Sommers, & Newman, 2013; Frick, Bodin, & Barry, 2000).

Focusing on youth, the relationship between conduct disorder and violence is well documented. Current thinking suggests that conduct disorder is a heterogeneous syndrome with two subtypes: antisocial and aggressive, each associated with subtype-specific outcomes (Tackett, Krueger, Iacono, & McGue, 2005). Some research finds that a history of aggressive conduct disorder explains more serious offending among adults, above and beyond the contribution of psychopathy, suggesting that this syndrome is important in understanding careers in violent crime (Baskin-Sommers et al., 2013).

While some youth with conduct disorder go on to develop adult psychopathology, such as APD and psychopathy, the majority do not. Thus, adult forms of psychopathology are also uniquely as-

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sociated with violent offending. Although APD and psychopathy are considered similar in some respects (e.g., impulsive and antisocial behavior; Blonigen, Hicks, Krueger, Patrick, & Iacono, 2005), research indicates that they are two different disorders with distinct etiological mechanisms (Baskin-Sommers & Newman, 2013; Hare, 2003; Hare et al., 1990; Patrick, 1994). Nonetheless, APD and psychopathy are highly comorbid conditions, and their confluence within an individual is associated with elevated levels of violent offending (Baskin-Sommers et al., 2013; Fridell, Hesse, Jaeger, & Kühlhorn, 2008; Vitale, MacCoon, & Newman, 2011).

In terms of racial differences in the prevalence of APD and conduct disorder, large-scale population-based studies suggest little to no racial differences (e.g., Breslau et al., 2006; Singh, Grann, & Fazel, 2011). Although base rate comparisons for psychopathy are not available, studies find that White and nonwhite counterparts do not differ meaningfully on psychopathy (Singh et al., 2011). However, recent research suggests that the risk for violence posed by the comorbidity among APD, psychopathy, and aggressive conduct disorder can be explained, partly, by community disadvantage (Baskin-Sommers et al., 2013). The importance of community disadvantage fits within theories of behavior and the development of psychopathology that integrate psychological and sociological concepts. The environment often reinforces specific behaviors or tendencies that are most often exhibited by an individual, and the individual often engages in ways that are most represented in their environments (i.e., social learning theory). Thus, the initial evidence that race may moderate the relationship between psychopathology and violence may represent a larger impact of environmental context.

Race, Environmental Risks, and Violent Offending

Much research on the environmental risks associated with violent offending and with psychopathology identifies adverse family factors (Marshall & Cooke, 1999) poor peer relationships (Freidenfelt & Klinteberg, 2003), and school failure (Marshall & Cooke, 1999) as key ecological contexts. It also demonstrates a robust relationship among community disadvantage (e.g., the spatial concentration of poverty, use of public assistance, female headed households, joblessness, density of children, residential segregation, social disorder, and lack of political influence), psychopathology, and violent offending (Haynie, Silver, & Teasdale, 2006; Sommers & Baskin, 1992). For that matter, some research indicates that risky family, peer, and school factors, themselves, are shaped by, or at least are more pernicious in the context of community disadvantage (Sampson, 2012).

Importantly, community disadvantage is not distributed equally across race. Blacks in the United States are disproportionately isolated in disadvantaged communities with 66% of Black children growing up in disadvantage as compared with 6% of Whites (Sharkey, 2009), and 19% of Hispanics (Annie E. Casey Foundation, 2012). Thus, Black children are at higher risk of being exposed to community disadvantage and of experiencing its attendant negative consequences (e.g., poorer school performance, disparities in health and mental health symptomatology, joblessness, family fragmentation) than their White and Hispanic counterparts (Baskin & Sommers, 2014, 2015; Chauhan & Reppucci, 2009). Further, the impact of these environmental antecedents on violent offending seems to be particularly pronounced for youth with conduct disorder-related symptoms (i.e., conduct problems; Javdani, Abdul-Adil, Suarez, Nichols, & Farmer, 2014) and other antisocial syndromes (Fowler, Tompsett, Braciszewski, Jacques-Tiura, & Baltes, 2009). Thus, community disadvantage may account for the variability in the degree to which psychopathology predicts violent offending among youth.

While the effects of disadvantage appear to be associated with a greater risk for violent offending, results from some studies call into question whether the effect is direct (Chauhan & Reppucci, 2009). In other words, is neighborhood disadvantage a sufficient condition to increase the risk of violent offending, and do differences in the ways in which disadvantage is transmitted to residents affect violent offending? In terms of the latter question, research identifies exposure to community violence as an important mechanism of transmission (Aisenberg & Herrenkohl, 2008; Baskin & Sommers, 2014, 2015), with adverse outcomes, such as violent offending, affecting not only adults but youth, as well (Baskin & Sommers, 2014, 2015; Halliday-Boykins & Graham, 2001; Javdani et al., 2014). And, both cross-sectional and longitudinal research consistently find a moderate to strong effect for direct exposure to community violence on psychopathology (see Fowler et al., 2009 for a meta-analysis).

Notably, serious juvenile offenders, relative to other youth, are most likely to have experienced chronic exposure to community violence (Baskin & Sommers, 2014, 2015; Cuevas, Finkelhor, Turner, & Ormrod, 2007), although not all experience negative consequences. This variation in outcomes may be due, in part, to other risk and protective factors. Additionally, not all serious juvenile offenders, even those who are exposed to chronic community violence and commit violent crime, remain involved in offending (Baskin & Sommers, 2014). While studies are beginning to identify which subgroups of adolescent serious offenders are most likely to persist, there is still work that remains to be done.

Present Study

The present study utilizes the Pathways to Desistance dataset, a multisite, longitudinal study of serious juvenile offenders (see Schubert et al., 2004, for complete methodological details). The use of a sample of serious juvenile offenders has a few advantages, including but not limited to their greater exposure to community violence and other risk factors than nonjustice-involved youth (Cuevas et al., 2007; Halliday-Boykins & Graham, 2001); thus, making it easier to parse out the effect of environmental and other moderating variables on violent offending. Moreover, this dataset includes Hispanics, a subgroup that is rarely considered in studies of psychopathology and offending. Hispanics are the fastest growing segment of the U.S. population and include a disproportionate number of youth who are considered at risk for a wide variety of adverse outcomes, including those related to mental health and crime (Losoya et al., 2008). For that matter, recent research demonstrates considerable change in Hispanic youth involvement in serious offending due to increasing exposure to community disadvantage, a condition generally accepted as a significant risk factor for violent offending (Bersani, Loughran, & Piquero, 2014). While recognition of this change is growing, most research continues to either collapse Hispanics into an aggregate "racial/ethnic minority" category or focus exclusively on the Hispanic population and

as a result cannot address whether there are racial disparities in the effects of either contextual or individual level risks.

The present study examines whether environmental context, particularly exposure to violence, affects the relationships among race, psychopathology, and serious violent offending. To do this, we first examine the effects of racial category and APD, psychopathy, and conduct problems on violent offending. Second, we use community context variables and exposure to community violence to examine the impact of environment on the relationship between race and psychopathology. Last, in order to account for important individual differences, an array of dispositional and personality traits, cognitive capacities, as well as indicators of emotion regulation is included in all analyses. By examining the intersection of race, psychopathology, and environmental variables, we are poised to develop a more comprehensive understanding of the variety of factors that predict engagement in violent offending among adolescents.

Method

Participants

Participants in the current study were male adolescents, aged 14 through 18, found guilty of a serious (overwhelmingly felony level) offense at their current court appearance in Philadelphia, PA ($N = 605$) or Phoenix, AZ ($N = 565$). We restricted analyses to male adolescent offenders ($N = 1{,}116$), as the data set had an insufficient number of females in the sample ($n = 184$) for analyses. A small number ($N = 54$) of participants whose racial/ethnic identification was "other" were excluded, as well (see Table 1 for sample characteristics). The number of males adjudicated for a drug crime was limited to 15% of the sample so as to avoid overrepresentation of that offense category. All youth who were transferred to adult courts and who met enrollment criteria were also recruited to participate. Of all eligible youth, 67% of those who were invited to participate in the research agreed to enroll.

Participants completed six annual face-to-face interviews over the course of the study period (one baseline and five follow-ups). At baseline, they completed the full battery of measures. At each follow-up interview, researchers gathered information on the adolescents' self-reported behavior and experiences during the prior 12 months, including any illegal activity, drug or alcohol use, and involvement with treatment or other services. In addition, the follow-up interviews collected data on changes in life situations (e.g., living arrangements and employment), developmental factors (e.g., likelihood of thinking about and planning for the future and relationships with parents), and functional capacities (e.g., mental health symptoms). For the current analyses, any data missing from specific measures or timepoints were corrected through multiple imputation. Sample retention for the Pathways Project was high at each follow-up, ranging from 84% to 94% ($M = 90\%$; see Mulvey et al., 2004 for details).

Measures

Primary independent variables.

Psychopathy. Psychopathy was assessed with the Youth Psychopathic Traits Inventory (YPI; Andershed, Kerr, & Stattin, 2002). The YPI consists of three different subscales: callous/unemotional traits, impulsivity/irresponsibility, and grandiosity/manipulativeness. It includes 50 items, rated on four-point Likert scales. YPI scores from the final follow-up interview were used to assess psychopathy. Study participants were ages 20–24 at the time of administration of the YPI. Unlike the Psychopathy Checklist-Revised, the YPI does not provide cutoff scores for psychopathy. For the purposes of the current study, individuals with scores beyond one standard deviation of the mean were considered to have psychopathy. Psychopathy scores showed good internal consistency ($\alpha = .93$) and validity (CFI = .95; normed fit index, NFI = .93; RMSEA = .09).

APD. The Personality Assessment Inventory (PAI; Morey, 2007) for adults (18 years or over) contains 344 items that comprise 22 nonoverlapping scales. Two of the clinical scales (borderline and antisocial features) were administered only once to participants at the end of the study. Participants were between the ages of 20–24 at the time of administration. Individuals scoring at or above a *T* score of 70 were considered as meeting the threshold for APD.

Table 1
Descriptive Statistics

	N	*Minimum*	*Maximum*	*M*	*SD*
Age	1,116	14	18	16.05	1.16
Sex (Male)	1,116	—	—	—	—
Race					
White	225	0	1	.20	—
Black	493	0	1	.44	—
Hispanic	398	0	1	.36	—
Neighborhood conditions (time-averaged)	1,114	1	4	2.237	.74
Exposure to community violence (time-averaged)	1,116	0	48	12.17	8.06
IQ (WAIS)	1,104	55	128	84.45	12.87
Anxiety (RCMAS)	1,115	1	28	9.78	5.95
Emotion regulation (Walden)	1,105	1	4	2.76	.66
Executive control (Stroop)	1,096	21	79	50.46	7.11
Psychopathy (YPI)	1,116	0	1	.13	—
APD (PAI)	1,116	0	1	.13	—
Aggressive CP (agg-CP)	1,116	0	1	.44	—
Variety of violence	1,116	0	8	2.07	2.89

Aggressive conduct problems (agg-CP). There is no formal diagnostic measure of conduct disorder in the Pathways dataset. Therefore, we computed one by using the self-reported violent offending (SRO) and general life history interview variables assessed at baseline and employing the seven behavioral conduct disorder criteria that define aggression toward people and animals (bullying, fighting, use of a weapon, physical cruelty to people or animals, theft involving direct confrontation, and sexual coercion). Respondents reported the age of each antisocial behavior at baseline, but not at the follow-up time points. Additionally, all participants at baseline were adjudicated as serious felony level offenders, reducing the variability of agg-CP over the study period. Though there is partial overlap with the agg-CP measure (baseline) and the SRO outcome at follow-up, this does not necessarily mean that this variable will interact with other variables of interest (e.g., race), and therefore it remains an appropriate baseline measure of agg-CP. We created a binary agg-CP score based on youth endorsing 3 or more items ("high" CP) or fewer than 3 items ("low" CP). This cutoff is consistent with diagnoses of conduct disorder. Of note, modeling agg-CP continuously did not change the results reported below.

Dependent variables.

Self-reported violent offending. A modified version of the SRO scale was used at each interview (one per year over 6 years) to measure the adolescent's account of his involvement, at least once, in eight different violent crimes (fights as part of gang activity, assault, carjacking, robbery with weapon, robbery without weapon, shooting someone, shooting at someone, carrying a gun) over the last 12 months. The dichotomized items were then summed for the analyses. A sum of the number of types of violent offenses committed (a "general versatility or variety" score) was calculated for each subject at each interview. The analyses utilized an additive variety score (i.e., total number of types of violent crimes committed over a 6-year period). Variety scales are often compared with frequency scales that index the number of times that a specific act occurred. For this study, a variety scale was used in light of research indicating that variety scales are more internally consistent and more stable (Bendixen, Endresen, & Olweus, 2003). All analyses controlled for baseline violence as a predictor of the 5-year follow-up interview report. The intraclass correlation for violence across time was .75.

Environmental risk and moderating variables.

Exposure to violence. The Exposure to Violence Inventory (Selner-O'Hagan, Kindlon, Buka, Raudenbush, & Earls, 1998) was modified for this study to assess the frequency of exposure to violent events. Items from the inventory document the types of violence the adolescent both experienced (i.e., direct exposure) and observed (i.e., indirect exposure). Higher scores indicate greater exposure to violence. The sum total of exposures (victimization + witness) endorsed across the study period was used both as a covariate and as a moderating variable in the respective analyses. The intraclass correlation for exposure to violence across time was .80.

Individual difference and neighborhood condition covariates (baseline measures). A large body of research links a variety of individual and community risk factors that influence disinhibition and antisocial behavior outcomes. To examine the *unique* effect of psychopathology and race on violence outcomes, we included many of the potential factors as covariates within the models.[1] Each of these measures was evaluated via self-report at baseline.

Individual characteristics. (a) *Intelligence* was measured by the Wechsler Abbreviated Scale of Intelligence (WASI; Wechsler, 1999); (b) *Emotion regulation* was measured via self-report using an adapted version of the Children's Emotion Regulation scale (Walden, Harris, Weiss, & Catron, 1995). Of the 33 original items contained in this scale, 12 were included in the version for Pathways to Desistance. Higher scores indicate a better ability to regulate emotion; (c) *Anxiety* was assessed via the Revised Children's Manifest Anxiety scale (RCMAS; Reynolds & Richmond, 1985) and included 28 items comprising subscales evaluating physiological anxiety, worry/oversensitivity, and social concerns/concentration; (d) *Executive control* was assessed through the use of the Stroop Color-Word Test (Golden, 1978), which indexes cognitive flexibility and resistance to interference from outside stimuli. An interference *T* score was calculated based on normed data. Higher scores (average is a score of 40) reflect better performance and less interference on reading ability, and higher executive control; and, (e) *Institutional confinement* was included as a time-varying covariate in order to account for the amount of time the participant was free to engage in criminal acts in the community. This variable was calculated as a proportion indicating the total days during the 6-month recall period that the individual was reported to be in the community.

Neighborhood conditions. Neighborhood conditions were measured using items adapted from other large-scale studies of neighborhood functioning (Sampson & Raudenbush, 1999). Adolescents were asked about 21 examples of physical and social disorder in the blocks surrounding their homes (e.g., abandoned buildings, gang activity). They responded using a four-point scale ranging from 1 (*never*) to 4 (*often*). Scores were averaged across all items and interview periods (i.e., baseline to 5-year follow-up) to determine levels of neighborhood disorder. This measure was used as a covariate in the respective regression models.

Results

The Influence of APD, Psychopathy, and Race on Violent Offending in Adolescents

A negative binominal regression model was used to estimate whether and the extent to which race, APD, and psychopathy interactions exerted a significant influence on violent crime (i.e., count data indicating the number of types of violent crimes committed).[2] The data in Tables 2 and 3 show the bivariate results for the influence of different forms of psychopathology and race on violent offending. With regard to psychopathy and APD, Black youth were less likely to endorse either of these forms of psychopathology than White or Hispanic youth (see Table 2). There were no significant racial differences for violent offending versatility. Not surprisingly, youth without APD or psychopathy were less

[1] All models were also run without covariates. Results remained conceptually the same as those reported below for all sets of analyses.

[2] Initially we computed a conditional Poisson distribution model, but because the deviance statistic indicated overdispersion (when the true variance is bigger than the mean), we ultimately used negative binomial regression analyses for violent offending.

violent than all other diagnostic comparison groups, regardless of race. Moreover, there were no significant race-APD-psychopathy differences (see Table 3).

As compared with the White and Hispanic comorbid APD and Psychopathy (APD + Psychopathy) subgroups, Black youth in the comparable subgroup were significantly more likely to commit more types of violent crimes (odds ratio, $OR = 1.82$; see Table 4). In addition, youth without these comorbid conditions were less violent than all other subgroups, regardless of race ($OR_{White} = .26$; $OR_{Black} = .46$; $OR_{Hispanic} = .55$).[3]

The Influence of agg-CP and Race on Violent Offending in Adolescents

Analyses were conducted to determine whether race subgroups were differentiated by patterns of childhood agg-CP. As compared with the White agg-CP subgroup (see Table 5), Black ($OR = 2.15$) and Hispanic ($OR = 1.83$) adolescents with agg-CP committed a significantly greater number of violent crime types than their White counterparts, even when controlling for the effect of psychopathy.

The Impact of Exposure to Community Violence on the Relationship Between Psychopathology and Race

Table 6 reports the results of the model that examined race—psychopathology-community violence interactions and violent crime versatility. Black and Hispanic youth with APD + Psychopathy, who were exposed to higher levels of community violence, committed a significantly greater number of violent crime types than their White counterparts ($OR_{Black} = 1.06$; $OR_{Hispanic} = 1.01$). However, the interaction of race, agg-CP, and community violence (see Table 7) indicates that only Black youth with agg-CP and who were exposed to higher levels of community violence were more likely ($OR = 1.05$) to have higher levels of violent offending than their White counterparts.

In order to understand the specificity of the interaction among race, agg-CP, and exposure to community violence, we examined whether the neighborhood conditions of White, Black, and Hispanic youth differed. Importantly, Black youth were significantly more likely to reside in neighborhoods with greater social and physical decay than Whites ($OR = 1.38$) and Hispanics ($OR = 1.47$). Black youth were also significantly more likely to experience higher levels of community violence exposure than Whites ($OR = 5.41$) and Hispanics ($OR = 6.25$).

Discussion

The current study builds on recent research that examines the relationship between psychopathology and violent crime among juvenile offenders. It extends the literature by integrating this relationship within a broader perspective that takes into account environmental context, including exposure to community violence, and racial differences. Additionally, it includes Hispanic youth, an understudied, yet growing part of this serious offending population. Thus, the current study provides an opportunity to assess whether exposure to violence adds any additional information concerning how community might influence the evolution of violent offending careers.

Table 2
Bivariate Statistics for Race, Psychopathology, and Violence (N = 1,116)

	% Psychopathy	% APD	% agg-CP	Violence versatility (Mean)
White	17.33	17.78	44.89	2.10
Black	9.33	7.91	39.55	1.95
Hispanic	15.33	16.58	48.99	2.17

Table 3
Bivariate Statistics for Race, APD, and Psychopathy Interactions (n = 1,116)

	N	Sample %	Violence versatility (Mean)
White APD + Psychopathy	20	1.80	4.88
White APD	20	1.80	4.67
White psychopathy	19	1.70	3.50
White neither	166	14.90	1.19
Black APD + Psychopathy	19	1.70	4.00
Black APD	20	1.80	5.33
Black psychopathy	27	2.40	3.50
Black neither	427	38.30	1.57
Hispanic APD + Psychopathy	36	3.20	3.67
Hispanic APD	30	2.70	3.46
Hispanic psychopathy	25	2.20	3.30
Hispanic neither	307	27.50	1.75

The Relationship Between Psychopathology and Violent Offending

Overall, the present study replicates several of the key patterns found among adult offenders. In terms of bivariate analyses APD, psychopathy, and agg-CP were important predictors of violent offending. Psychopathy played a particularly prominent role as a unique predictor across various analyses. Thus, juvenile offenders with psychopathic traits may represent a subgroup that is especially violent and whose chronicity may be linked to specific community conditions. Similar to research on adult offenders (Baskin-Sommers et al., 2013), youth without APD, psychopathy, or agg-CP were less likely to engage in violent offending as compared with offenders within other diagnostic categories.

The Inclusion of Race in the Psychopathology-Violent Offending Nexus

When race was included in the analyses, a more nuanced picture emerged. By and large, Black juvenile offenders were less likely to have APD, psychopathy, and agg-CP than their White or Hispanic counterparts. This is consistent with studies of adult offenders (Baskin-Sommers et al., 2013). Nonetheless, and much like their

[3] Additional analyses were performed with alternate reference groups (not shown). When the reference group was Hispanics with APD + Psychopathy, both Black ($OR = 2.50$) and White ($OR = 2.89$) youth had more violent crime versatility. When comparing psychopathy only subgroups, Hispanics were 2.46 and 2.17 times more likely to have committed more types of violent crimes than Whites and Blacks, respectively. On the other hand, Whites with APD only were 2.40 times more likely to have higher versatility scores than Hispanics with APD only.

Table 4
The Impact of APD, Psychopathy, and Race on Violence

	Odds ratio
Age	.93
Neighborhood conditions	.79*
Exposure to community violence	.99
IQ	.95
Anxiety	1.01
Emotion regulation	.92
Executive function	1.02
White psychopathy	.86
White APD	1.58
White neither	.26***
Black psychopathy + APD	1.82*
Black psychopathy	1.38
Black APD	.42
Black neither	.46**
Hispanic psychopathy + APD	.55
Hispanic psychopathy	1.56
Hispanic APD	1.03
Hispanic neither	.55*

Note. Reference group = White psychopathy + APD.
* $p < .05$. ** $p < .01$. *** $p < .001$.

adult counterparts, those Black juvenile offenders with APD and psychopathy committed more types of violent crimes than White and Hispanic juvenile offenders with the same disorders. Additionally, a differential effect of agg-CP for young Black and Hispanic males was sustained even when controlling for the influence of psychopathy on violence versatility. The specificity of the race-psychopathology effects to Black and Hispanic youth may indicate that neighborhood environments play a special role in terms of the development of chronic and serious violent offending. For that matter, race may simply be an artifact, and instead, the relationship may be related to environmental conditions and the cultural traits that result from long-term economic and social exclusion (Wilson, 2009).

The Intersection of Psychopathology, Race, and Environmental Conditions

Consistent with the idea that environmental risk (i.e., exposure to community violence) matters for identifying a subset of youth who are particularly violent, Black and Hispanic youth with comorbid APD and psychopathy *and* who were exposed to high levels of community violence were more likely than White youth to be involved in violent offending. Although Black and Hispanic youth appear similarly affected by APD + Psychopathy and environmental risk, earlier onset aggressive conduct problems further differentiated these subgroups of individuals. In terms of agg-CP and exposure to community violence, Black youth with agg-CP were more likely to be involved in violent crime than either Whites or Hispanics. These findings suggest that exposure to community violence makes more of a difference for Black youth than for the other race subgroups.

It would be simple to state that the Black youth who were in the Pathways study came from neighborhoods that were more disadvantaged and were exposed to more and earlier violence than their Hispanic counterparts. However, these data suggest that both of these subgroups of youth came from disadvantaged neighborhoods where exposure to violence was prevalent, certainly as compared with the White study youth. Findings from the current study demonstrate that although the Black youth were less likely to endorse agg-CP than Hispanics, their earlier and greater exposure to community violence may have differentially impacted their offending careers.

Research suggests that timing of violence exposure may account for the differences observed in this study, with earlier exposure linked to greater and more enduring adverse consequences (Baskin-Sommers & Baskin, 2015; Guerra, Rowell Huesmann, & Spindler, 2003), including persistent academic underachievement (Delaney-Black et al., 2002), earlier displays of aggression (e.g., fighting; DuRant, Pendergrast, & Cadenhead, 1994), and somatic symptoms (e.g., difficulty sleeping, headaches; Bailey et al., 2005). Though it is possible that exposure to violence and violent offending represents a cyclical relationship, growing evidence suggests that exposure to violence is the stronger predictor of violent offending than the reverse. Therefore, for the Black youth in the present study, it may be that earlier experiences of exposure to violence represent a particularly strong factor in the later engagement in violent offending.

Additionally, community disadvantage may not look the same for Hispanics as it does for Blacks. Recent research demonstrates significant differences across many domains in how disadvantage is transmitted and then experienced by Hispanics as compared with Blacks (IOM [Institute of Medicine] and NRC [National Research Council], 2014). For instance, although both groups reside disproportionately in disadvantaged neighborhoods, Black youth appear to be exposed to higher rates of physical and social decay within those neighborhoods and are more likely than their Hispanic counterparts to experience social isolation (Griffiths & Tita, 2009). Hispanic youth are more likely to experience family cohesion (Elliott & Sims, 2001), live in more diverse neighborhoods, both racially and economically or minimally, and live contiguous to more diverse neighborhoods. In contrast, Blacks have been found to reside in what are considered isolated neighborhoods of high deprivation (Peterson & Krivo, 2005) where social support systems that may provide pathways out of serious and persistent offending are absent, severely debilitated, or sparse. This context translates to lower access to formal and informal resources, home-based socioemotional learning (e.g., cognitive stimulation), and increased exposure to structural disadvantage (Buka, Stichick,

Table 5
The Impact of agg-CP and Race on Violence

	Odds ratio
Age	.85***
Neighborhood conditions	.90
Exposure to community violence	.97
IQ	.99
Anxiety	1.00
Emotion regulation	.84*
Executive function	1.02*
Psychopathy	2.05***
Black agg-CP	2.15***
Hispanic agg-CP	1.83**

Note. Reference group = White agg-CP.
* $p < .05$. ** $p < .01$. *** $p < .001$.

Table 6
The Impact of APD, Psychopathy, Race, and Exposure to Community Violence on Violence

	Odds ratio	Odds ratio
Age	.90**	.88*
Black	1.10	1.16
Hispanic	1.02	.92
Neighborhood conditions	.95	.95
Exposure to community violence	.98	.98
IQ	.94	.99
Anxiety	1.00	1.01
Emotion regulation	.86*	.86*
Executive function	1.02*	1.02*
Psychopathy	1.03	.91
APD	4.10***	3.80***
Psychopathy × Exposure to Community Violence	1.06*	—
APD × Exposure to Community Violence	.94**	—
White × Psychopathy × Exposure to Community Violence	—	1.03
White × APD × Exposure to Community Violence	—	.92
White × Neither × Exposure to Community Violence	—	.95***
Black × Psychopathy × APD × Exposure to Community Violence	—	1.06*
Black × Psychopathy × Exposure to Community Violence	—	1.05*
Black × APD × Exposure to Community Violence	—	.95
Black × Neither × Exposure to Community Violence	—	.96***
Hispanic × Psychopathy × APD × Exposure to Community Violence	—	1.01*
Hispanic × Psychopathy × Exposure to Community Violence	—	1.06*
Hispanic × APD × Exposure to Community Violence	—	1.00
Hispanic × Neither × Exposure to Community Violence	—	.97***

Note. Reference group = White psychopathy + APD (Column 2).
* $p < .05$. ** $p < .01$. *** $p < .001$.

Birdthistle, & Earls, 2001). The resulting pattern is that Black youth are more likely to live in environments of unrelenting, versus transitory, social and economic deprivation, and in turn, demonstrate chronic emotional and behavioral challenges (De Coster, Heimer, & Wittrock, 2006).

Limitations

Overall, findings from the present study suggest that race, psychopathology, and environmental context are interactively associated with violent offending. However, this study is not without limitations. First, the Pathways data lack a sufficient number of females for analyses; thus, it is unclear if the impact of race, psychopathology, and environment is the same for female offenders as it is for males (see Baskin-Sommers et al., 2013; Javdani et al., 2014 for discussions of gender effects). Second, the present study relies solely on self-report measures to assess psychopathology. For example, though the PAI antisocial features subscale is moderately related to the diagnosis of APD, it is not a formal comprehensive assessment. Third, while environment represents a clear factor related to chronic violent offending, the present study is limited in the measures available to characterize the environmental context. Future research should explore a variety of community context variables, such as neighborhood structure, as well as physical, economic, and social isolation.

Table 7
The Impact of agg-CP, Race, and Exposure to Community Violence on Violence

	Odds ratio
Age	.88*
Neighborhood conditions	.73*
Exposure to community violence	.97
IQ	1.00
Anxiety	1.00
Emotion regulation	.90
Executive function	1.01
Psychopathy	2.50***
Black agg-CP	1.53
Hispanic agg-CP	3.11***
Black agg-CP × Exposure to Community Violence	1.05*
Hispanic agg-CP × Exposure to Community Violence	.96

Note. Reference group = White agg-CP × Exposure to Community Violence.
* $p < .05$. ** $p < .01$. *** $p < .001$.

Conclusions

Despite these limitations, results from the current study suggest that prevention and intervention should begin at an early age and include strategies that are targeted to the specific environment-psychopathology interaction. For youth with psychopathic traits and comorbid aggressive conduct problems, exposure to community violence may place this subgroup of juveniles at particularly high risk for developing serious offending careers. One possible explanation for this effect may be that the emotional and information processing deficits found in these psychopathologies, particularly those that impact the perception and internalization of life experiences such as violence exposure, may be constrained, limiting ongoing evaluations of one's own and other's behavior, thoughts, and emotions (Baskin-Sommers, Curtin, & Newman, 2013; Blair & Mitchell, 2009). These youth may come to interpret

the use of violence as normative and useful for goal attainment and dispute resolution.

Importantly, environmental experiences, such as exposure to violence, can contribute to the persistence of these psychopathologies by altering neural circuitry. Therefore, strategies aimed at minimizing violence exposure, shoring up early reserves of resilience, and, in light of the particularities of this constellation of disorders, remediating their cognitive deficits, may be effective for this particular subset of the juvenile offending population. It is worth emphasizing that other psychopathology-environment interactions might warrant a different combination of strategies and that research should aim to uncover the mechanisms underlying their trajectories if the risk of lifelong justice system involvement is to be diminished. The ultimate goal is to implement prevention and intervention strategies that take into account the complexity of the set of criminogenic interactions that result in the most serious and persistent offending pathways.

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